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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/365,208	07/30/1999	ANDREAS KAPPEL	P99.1354	1501

29177 7590 05/24/2002

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EXAMINER

MEDLEY, PETER M

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 05/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/365,208

Applicant(s)

KAPPEL ET AL.

Examiner

Peter M Medley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 6-15 and 17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 16, 18 and 19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 24 September 2001 is: a) ☐ approved b) ☒ disapproved by the Examiner
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Drawings should use the English decimal system, i.e. “,” should be replaced with --.-- in the numbers.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 16, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 196 53 555 in view of DE 40 29 974 and JP 04-091664.

With respect to claims 1, 4, and 5, DE 196 53 555 discloses a multilayer actuator in **figs. 3a** and **3c** comprising a circular housing.

The reference does not disclose that the piezoelectric layers have an hexagonal cross-section with an external contact point.

DE 40 29 974 discloses the use of piezoelectric layers with hexagonal cross-section for the purpose of maximizing the yield of usable elements from a wafer of piezoelectric material. JP 04-091664 discloses the use of piezoelectric layers with hexagonal cross-section and an external contact point for the purpose of reducing the clamping effect.

It would have been obvious to one of ordinary skill in the art to use piezoelectric layers with hexagonal cross-section and an external contact point for the purpose of

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minimizing production costs by maximizing the yield of usable elements from a wafer of piezoelectric material and reducing the clamping effect.

With respect to claims 2, 3, and 16, the references do not disclose using AgPd or PZT.

The court has found that the selection of a known material based on its suitability for its intended use is obvious. *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). The Examiner takes Official Notice that AgPd is known as an electrical conductor and that PZT is a well known piezoelectric material. It would have been obvious to one of ordinary skill in the art to use AgPd for the purpose of using its known properties. It would have been obvious to one of ordinary skill in the art to use PZT in the actuator of DE 196 53 555 for the purpose of utilizing its well known electrical and mechanical properties.

With respect to claims 18 and 19, the limitations are inherent properties of piezoelectric layers with regular hexagonal cross-section.

Response to Arguments

3. Applicant's arguments filed 28 March 2002 have been fully considered but they are not persuasive.

Applicant's arguments with respect to claims 1-6 and 16 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter M Medley whose telephone number is 703-305-0494. The examiner can normally be reached on Monday-Friday 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3432 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

PM
May 21, 2002


NESTOR RAMIREZ
SUPERVISORY PATENT EXAMINER
TECHNICAL CENTER 2800